

(b) Accelerometer mounting in the thorax is the same as specified in § 572.44(b).

(c) Accelerometer mounting in the pelvis is the same as specified in § 572.44(c).

(d) Head accelerometer mounting is the same as specified in § 572.36(c).

(e) Neck transducer mounting is the same as specified in § 572.36(d).

(f) Instrumentation and sensors used must conform to SAE Recommended Practice J211, March 1995, "Instrumentation for Impact Tests."

(g) The mountings for the spine, rib and pelvis accelerometers shall have no resonance frequency within a range of 3 times the frequency range of the applicable channel class.

(h) Limb joints of the test dummy shall be set at the force between 1 to 2 g's, which just supports the limb's weight when the limbs are extended horizontally forward. The force required to move a limb segment does not exceed 2 g's throughout the range of the limb motion.

(i) Performance tests must be conducted at a temperature between 20.6 and 22.2 degrees C. (69 to 72 degrees F.) and at a relative humidity between 10 percent and 70 percent after exposure of the dummy to those conditions for a period of at least four (4) hours.

(j) For the performance of tests specified in § 572.114 and § 572.115, the dummy is positioned the same as specified in § 572.44(h).

Subpart N—Six-year-old Child Test Dummy, Alpha Version

SOURCE: 65 FR 2065, Jan. 13, 2000, unless otherwise noted.

§ 572.120 Incorporation by reference.

(a) The following materials are hereby incorporated into this subpart by reference:

(1) A drawings and inspection package entitled "Drawings and Specifications for the Hybrid III 6-year-old Dummy (August 1999)", consisting of:

(i) Drawing No. 127-1000, Head Assembly,

(ii) Drawing No. 127-1015, Neck Assembly,

(iii) Drawing No. 127-2000, Upper Torso Assembly,

(iv) Drawing No. 127-3000, Lower Torso Assembly,

(v) Drawing No. 127-4000, Leg Assembly,

(vi) Drawing No. 127-5000, Arm Assembly, and

(vii) The Hybrid III Six-year-old Parts List.

(2) A procedures manual entitled "Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III 6-year-old Child Crash Test Dummy, Alpha Version (August 1999)";

(3) SAE Recommended Practice J211-1995 Instrumentation for Impact Tests—Parts 1 and 2, dated March, 1995";

(4) SAE J1733 Information Report, titled "Sign Convention for Vehicle Crash Testing", dated December 1994.

(b) The Director of the Federal Register approved those materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the materials may be inspected at NHTSA's Technical Reference Library, 400 Seventh Street S.W., room 5109, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC.

(c) The incorporated materials are available as follows:

(1) The Drawings and Specifications for the Hybrid III 6-year-old Dummy (August 1999) referred to in paragraph (a)(1) of this section and the Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III 6-year-old Child Crash Test Dummy, Alpha Version (August 1999) referred to in paragraph (a)(2) of this section, are available from Reprographic Technologies, 9000 Virginia Manor Road, Beltsville, MD 20705 (301) 419-5070.

(2) The SAE materials referred to in paragraphs (a)(3) and (a)(4) of this section are available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

§ 572.121 General description.

(a) The Hybrid III type 6-year-old dummy is defined by drawings and specifications containing the following materials:

§ 572.122

49 CFR Ch. V (10–1–01 Edition)

(1) Technical drawings and specifications package P/N 127-0000, the titles of which are listed in Table A;

(2) Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III 6-year-old test dummy, Alpha version (August 1999).

TABLE A

Component assembly	Drawing number
Head assembly	127-1000
Neck assembly	127-1015
Upper torso assembly	127-2000
Lower torso assembly	127-3000
Leg assembly	127-4000
Arm assembly	127-5000

(b) Adjacent segments are joined in a manner such that except for contacts existing under static conditions, there is no contact between metallic elements throughout the range of motion or under simulated crash impact conditions.

(c) The structural properties of the dummy are such that the dummy must conform to this Subpart in every respect before use in any test similar to those specified in Standard 208, "Occupant Crash Protection", and Standard 213, "Child Restraint Systems".

§ 572.122 Head assembly and test procedure.

(a) The head assembly for this test consists of the complete head (drawing 127-1000), a six-axis neck transducer (drawing SA572-S11) or its structural replacement (drawing 78051-383X), a head to neck-to-pivot pin (drawing 78051-339), and 3 accelerometers (drawing SA572-S4).

(b) When the head assembly in paragraph (a) of this section is dropped from a height of 376.0 ± 1.0 mm (14.8 ± 0.04 in) in accordance with paragraph (c) of this section, the peak resultant acceleration at the location of the accelerometers at the head CG may not be less than 245 G or more than 300 G. The resultant acceleration vs. time history curve shall be unimodal; oscillations occurring after the main pulse must be less than 10 percent of the peak resultant acceleration. The lateral acceleration shall not exceed 15 g's (zero to peak).

(c) *Head test procedure.* The test procedure for the head is as follows:

(1) Soak the head assembly in a controlled environment at any temperature between 18.9 and 25.6 °C (66 and 78 °F) and a relative humidity from 10 to 70 percent for at least four hours prior to a test.

(2) Prior to the test, clean the impact surface of the skin and the impact plate surface with isopropyl alcohol, trichloroethane, or an equivalent. The skin of the head must be clean and dry for testing.

(3) Suspend the head assembly as shown in Figure N1. The lowest point on the forehead must be 376.0 ± 1.0 mm (14.8 ± 0.04 in) from the impact surface and the head must be oriented to an incline of 62 ± 1 deg. between the "D" plane as shown in Figure N1 and the plane of the impact surface. The 1.57 mm (0.062 in) diameter holes located on either side of the dummy's head shall be used to ensure that the head is level with respect to the impact surface.

(4) Drop the head assembly from the specified height by means that ensure a smooth, instant release onto a rigidly supported flat horizontal steel plate which is 50.8 mm (2 in) thick and 610 mm (24 in) square. The impact surface shall be clean, dry and have a micro finish of not less than 203.2×10^{-6} mm (8 micro inches) (RMS) and not more than 2032.0×10^{-6} mm (80 micro inches) (RMS).

(5) Allow at least 2 hours between successive tests on the same head.

§ 572.123 Neck assembly and test procedure.

(a) The neck assembly for the purposes of this test consists of the assembly of components shown in drawing 127-1015.

(b) When the head-neck assembly consisting of the head (drawing 127-1000), neck (drawing 127-1015), pivot pin (drawing 78051-339), bib simulator (drawing TE127-1025, neck bracket assembly (drawing 127-8221), six-axis neck transducer (drawing SA572-S11), neck mounting adaptor (drawing TE-2208-001), and three accelerometers (drawing SA572-S4) installed in the head assembly as specified in § 572.122, is tested according to the test procedure in paragraph (c) of this section, it shall have the following characteristics: